

## Senior Transportation Officer Qualification Course

### Marine Terminal Unit Overview

This lesson focuses on the United States Army units involved in Marine Terminal operations (fixed terminal and Logistics-Over-The-Shore). This is a three part block. Part one is a PowerPoint presentation describing Marine Terminal units and their capabilities. Part two is a MS Word document (Marine Terminal 2.doc) describing the characteristics and capabilities of strategic sealift vessels commonly associated with military operations. Part three is a MS Word (Marine Terminal 3.doc) document describing the characteristics and capabilities of Army and Navy lighterage. Part one of this block begins with the next slide in this file. Icons on the last slide in this presentation provide direct links to parts 2 and 3 of this block.

## Marine Terminal Operations



## Management And Operation Of Strategic, Common-user Contingency Seaports





## **Marine Terminal Units And Army Transport Units**



## Military Traffic Management Command

- Selects unit SPOE/SPOD with the CINC.
- Prepare and issue port call messages.
- Receives PSAs from supporting installations.
- Receive, stage, and transship unit equipment in the port.
- Regulate military traffic within the port.
- Direct DSBs to assist deploying units.
- Assist ITOs and traffic managers in shipping unit equipment.
- Develop stow plans, supervise vessel loading, and provide documentation.

## Composite Transportation Group (CTG)

**Senior transportation headquarters responsible for terminal operations.**

**Commands 2 to 7 TC battalions.**

**Normally responsible for all terminal operations within a specified area.**

**Provides command, control and staff planning.**

## Transportation Battalion (Terminal)

- The transportation terminal battalion is the basic command and control HQ for theater terminal operations.
- It is the normal command element for each two to four ship marine terminal.



## Cargo Transfer Company





## Terminal Service Company



## Other Terminal Units

Terminal service detachment: can be used to augment terminal service and cargo transfer units.

Cargo documentation detachment: documents cargo or containers being loaded, discharged, or transferred from one mode of transportation to another.

Freight consolidation and distribution: operates a consolidation and distribution point or terminal facility handling lots of cargo.

## OTHER TERMINAL UNITS (Con't)

**Transportation contract supervision detachment:**

Negotiates for and administers contracts for stevedoring and inland waterway and highway transport.

**Automated cargo documentation detachment:**

Documents breakbulk or container cargo.

**Heavy crane platoon:**

Provides personnel and equipment to handle 400 containers in fixed-port operations and 200 containers in a LOTS operation.

# Army Water Transport Operations







# Why Army Watercraft?



## • Essential to a CONUS based Power Projection Army...

1st Major Theater War (MTW) Scenario Requires 5 1/3 Div in 75 Days

- TA 405 and Army War Plans validate the need for Army watercraft as early deployers...90% of Cargo will move by Sea
- Of 2000+ military significant oceanports in the world, only 1100+ are LMSR/FSS capable... the rest require Army watercraft
- Offsets risk of port interdiction
- Increases port's capability to off-load additional Surge Sealift

Equipment & Sustainment Doubled



Large Medium-Speed Roll-on/Roll-off LMSR increases surge sealift by 127%



## Why Army Watercraft?



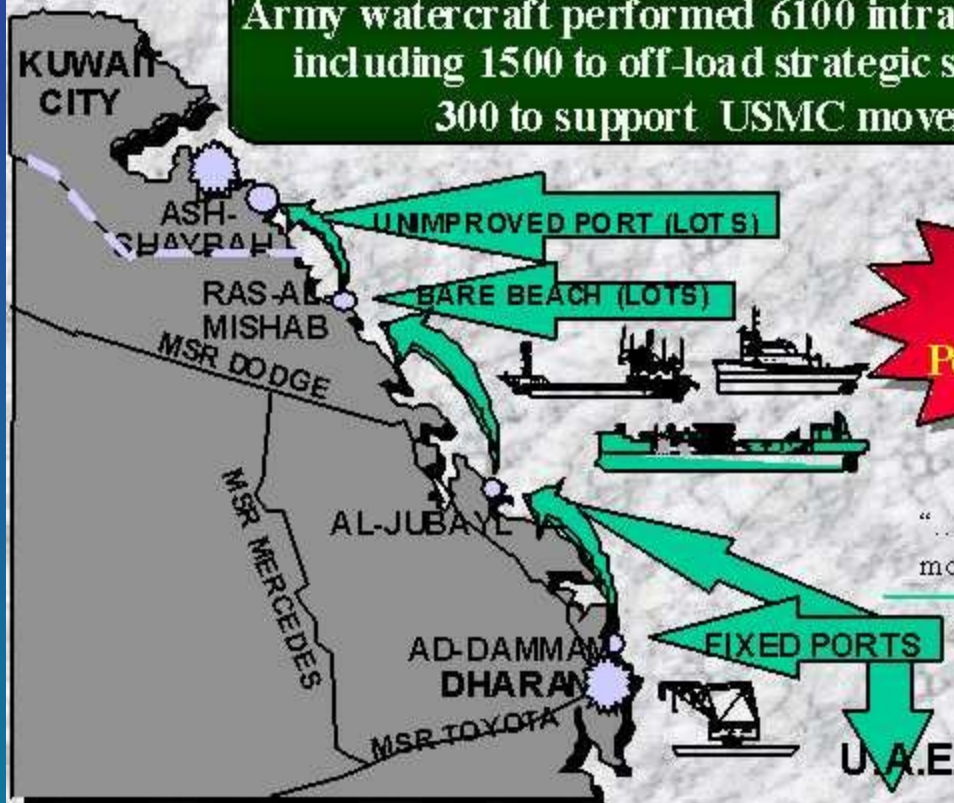
- **Essential to Onward Movement and Sustainment**
  - **Coastal/Inland Waterway Main Supply Route (MSR) to move outsized/heavy equipment**
  - **Coastal/Inland Waterway MSR to move materiel and supplies**
  - **Coastal/Inland Waterway MSR to bypass congestion and /or interdiction of Land MSR**





## Desert Storm

Army watercraft performed 6100 intra-theater missions; including 1500 to off-load strategic shipping *and* 300 to support USMC movements



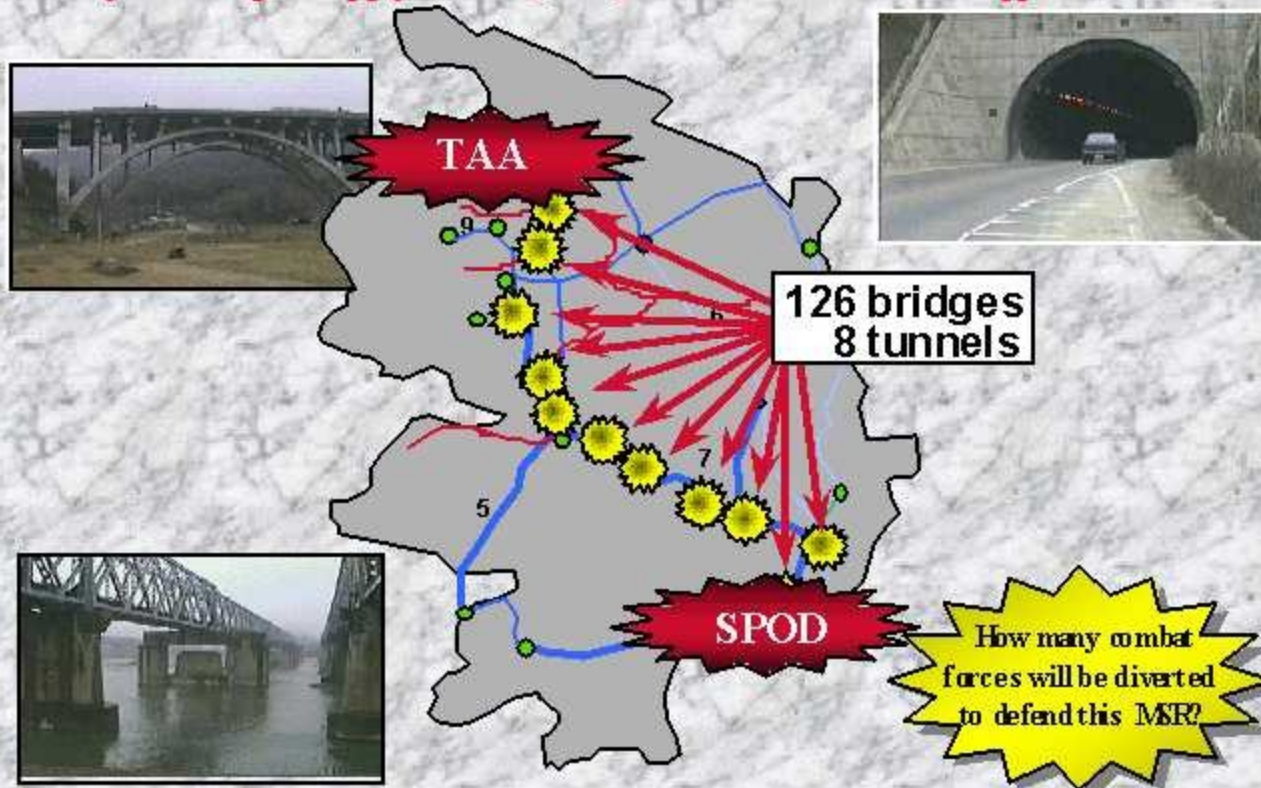
**Watercraft  
used in all  
Port operations**

"...port denial is one of the most likely early scenarios."

Mobility Requirements Study

## Potential Scenario

Only one Major Supply Route (MSR) with 134 interdiction opportunities





## Army Intra-Theater Sealift



Army water craft provide a tactical advantage by creating an alternative MSR and by spreading opposing force over possible port and beach sites



Increases the combat commander's options

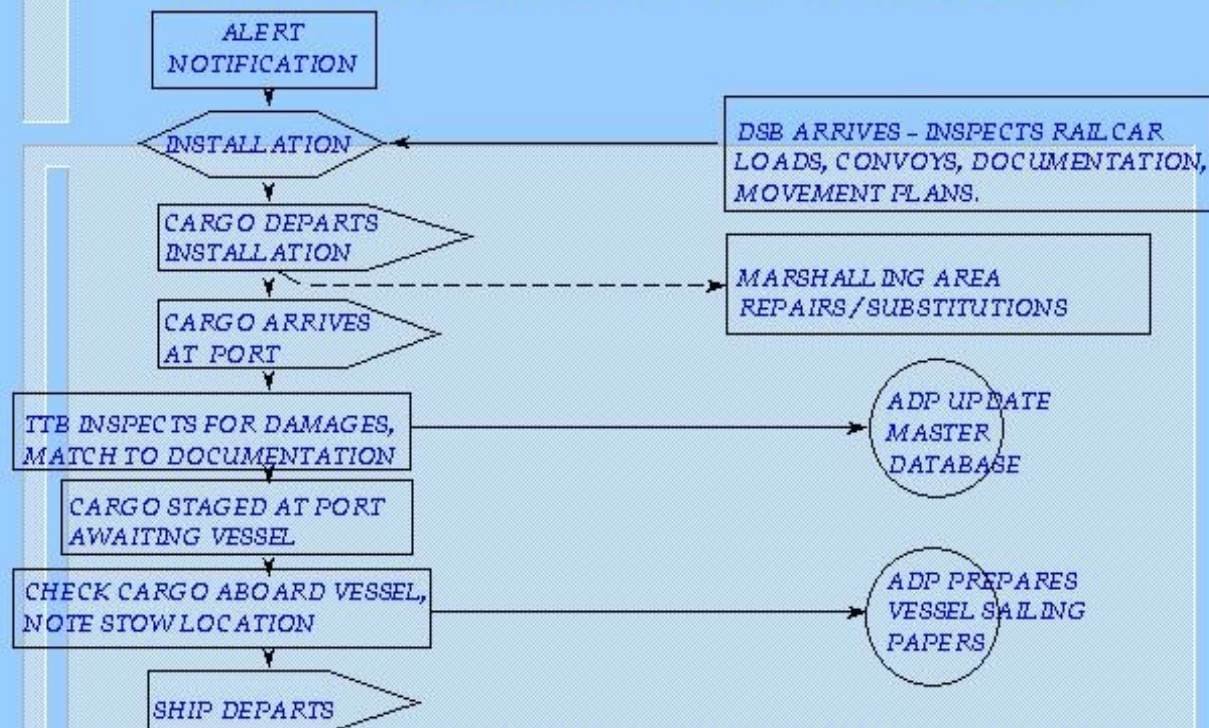


## DEPLOYMENT TERMINALS





# DEPLOYMENT OF CARGO



CARGO MAY ENTER AN INTERMEDIATE STAGING AREA IF PORT IS CONGESTED, IF MAJOR REPAIRS ARE NEEDED, OR CARGO NOT BOOKED ON A SHIP.

## **MILITARY TRAFFIC MANAGEMENT COMMAND (MTMC)**

- **Tiger Team**
- **Selects SPOE**
- **Coordinates with MSC**
- **Issues Port Call Messages**
- **Coordinates with Supporting Installation**
- **Receives and Stages Cargo within the Port**
- **Establishes Port Commo and Security**
- **Provides for Stevedore Services**
- **Provides Pre-Stowage Planning**
- **Provides Cargo Documentation**
- **Sends DSB to Deploying Unit**
- **Assist ITO**



## **TRANSPORTATION TERMINAL BRIGADE/BATTALION (TTB)**

- Reserve Component
- Provide Traffic Management
- Monitor Commercial Contracts
- Tailored to Specific Ports
- 7 Transportation Terminal Brigades (TTBde)
- 6 Transportation Terminal Battalions (TTBn)
- Expands MTMC

# **PORT SUPPORT ACTIVITY**

- **Consists of 50- 100 Solders from the Supporting Installation**
- **OPCON to Terminal Commander**
- **Augmented by Supporting Installation/Deploying Unit**
- **Works for SPOE Commander**
- **Ensures Equipment is Ready for loading**
- **Operates in Terminal Staging Area**
- **Performs Maintenance**
- **Corrects Configured Equipment Deficiencies**
- **Provides Security**
- **Conducts Fly-in Operations**

# MARSHALLING AREA

- **The Final Enroute Location for Unit's Equipment to be POM Configured Prior to Entering the Port Staging Area**
- **3 to 5 Miles from SPOE**
- **Supported by the Supporting Installation**
- **Optional, Hard stand**
- **Emergency repair and evacuation of vehicles**
- **Mess, Refueling, Sewage**
- **Electricity and lighting**
- **Potable/non-potable water**
- **Billeting**
- **Medical (Per MEDDAC)**
- **Communications**

## **PORT STAGING AREA**

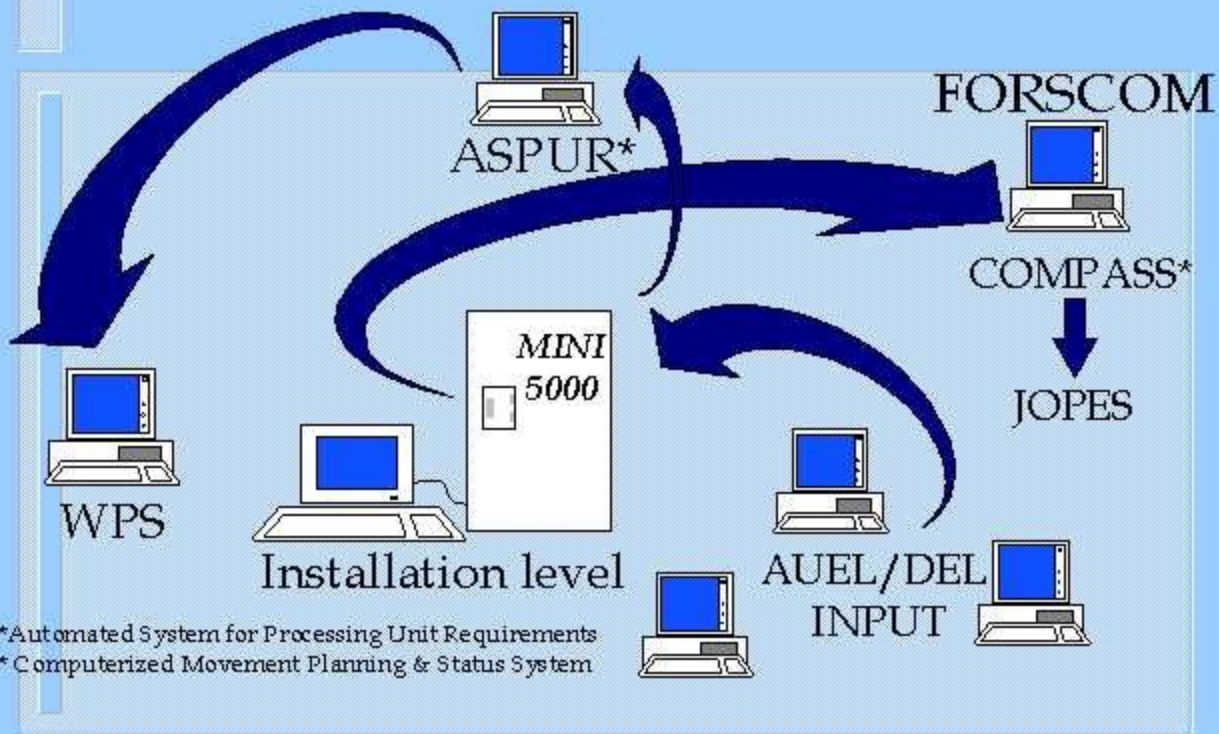
- **Controlled by PSA**
- **Call-forwarded from Marshalling Area**
- **Movement of cargo from the port staging area to shipside at the apron is done by the shipside staging plan.**



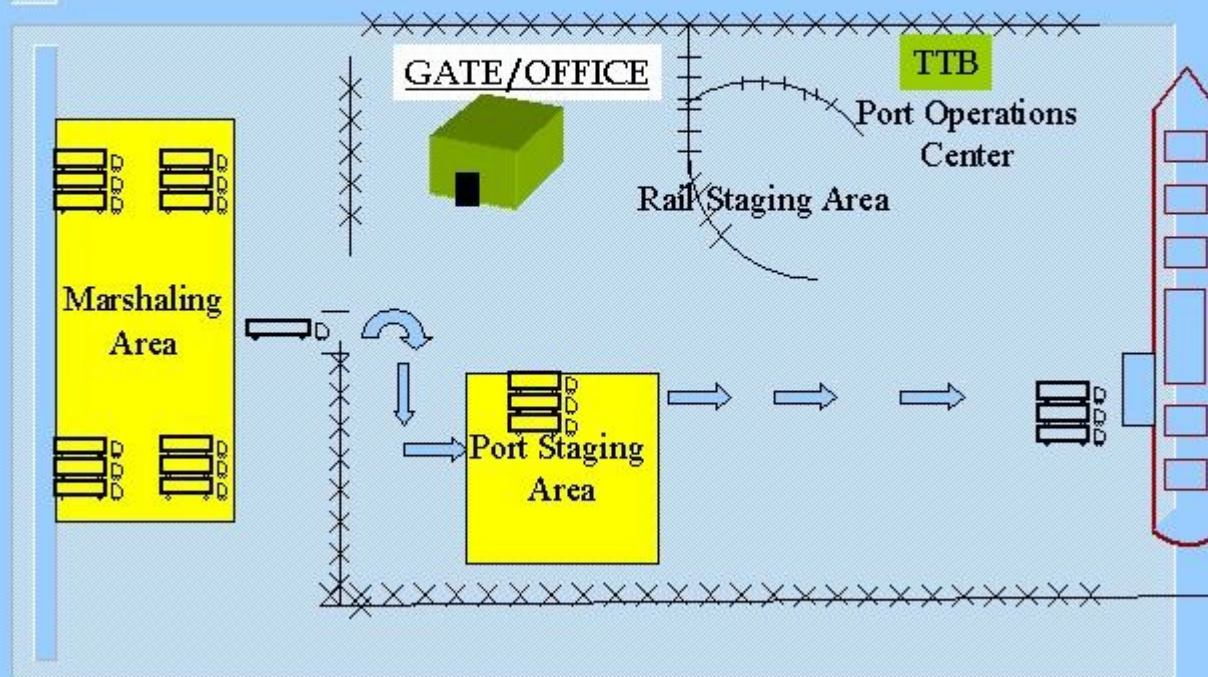
# VESSEL UPLOAD

- Prestowage Planning
- Drivers
- Commercial Stevedores

## DEPLOYMENT DOCUMENTATION FLOW



# ***CARGO FLOW***





**SENIOR TRANSPORTATION OFFICERS  
QUALIFICATION COURSE**

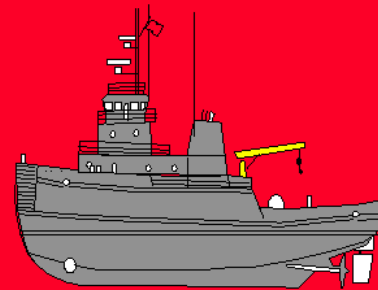
**THROUGHPUT EVALUATION**



# THROUGHPUT EVALUATION

## INITIAL PHASE

- *INTRODUCTION OF UNIT EQUIPMENT*
- *DEPENDS ON CAPABILITY TO DISCHARGE RORO AND BARGE CARRYING VESSELS*



# THROUGHPUT EVALUATION

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## INITIAL PHASE

- CONDITION OF TERMINAL  
*DISORGANIZED*  
*EARLY DEVELOPMENT STAGE*  
*UNABLE TO FULLY HANDLE*  
*LARGE NUMBERS OF SHIPS*



# THROUGHPUT EVALUATION

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## TACTICAL RESUPPLY PHASE

- **TERMINAL FACILITIES IMPROVED**
- **NEITHER TERMINAL OR LAND NET  
CAN HANDLE LARGE VOLUMES OF  
CONTAINERS**
- **UNIT MOVES DROPS OFF  
SIGNIFICANTLY**

# THROUGHPUT EVALUATION

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## SUSTAINED RESUPPLY PHASE

- TERMINAL WELL ORGANIZED
- THEATER AND TERMINAL HANDLES LARGE VOLUMES OF CONTAINERS
- AVAILABILITY OF FIXED PORT FACILITIES AND TYPES OF VESSELS AFFECT PORT CAPACITY

# THROUGHPUT EVALUATION

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## STEPS IN OCEAN TERMINAL PLANNING

- DETERMINE THE TYPE OR CATEGORY OF EXISTING TERMINALS.
- ESTIMATE THE EXISTING TERMINAL THROUGHPUT CAPACITY.
- COMPUTE THE TERMINAL WORKLOAD NEEDED TO SUPPORT THE OPERATION.



# THROUGHPUT EVALUATION

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- **DETERMINE THE REPAIR AND REHABILITATION REQUIRED**
  - **ESTIMATE MHE NEEDS**
    - **ESTIMATE THE UNITS, INDIVIDUALS, AND SUPERVISORY AND COMMAND ELEMENTS NEEDED TO OPERATE THE TERMINAL**

FM 55-60

# THROUGHPUT EVALUATION

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- **TERMINAL RECEPTION CAPACITY**

**NUMBER OF BERTHS OR ANCHORAGE'S**

**BASED ON PHYSICAL FEATURES**

**EXPRESSED AS AN ESTIMATE OF TONNAGE**

**IS A FUNCTIONAL OF WHARF AND  
ANCHORAGE SIZE, WATER DEPTH,  
AND VESSEL TRAFFIC**

# THROUGHPUT EVALUATION

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- **TERMINAL DISCHARGE CAPACITY**
  1. **BERTH CAPACITIES**
  2. **CAPACITY COMPUTATIONS**
  3. **INFLUENCES OF TRANSFER AND STORAGE OPERATIONS (CAPACITIES)**



# THROUGHPUT EVALUATION

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- **TERMINAL CLEARANCE CAPACITY**
  1. **THE ABILITY TO CLEAR CARGO FROM THE TERMINAL**
  2. **CLEARANCE CAPACITY COMPUTATIONS:**
    - a. **RAIL CLEARANCE CAPACITY**
    - b. **HIGHWAY CLEARANCE CAPACITY**
    - c. **INLAND WATERWAY CAPACITY**

# THROUGHPUT EVALUATION

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- **LIMITING CAPACITY**

**THE LESSER OF THE DISCHARGE, TRANSFER, OR CLEARANCE CAPACITY IS THE TERMINAL THROUGHPUT CAPACITY**

- 1. SIGNIFICANT INFLUENCE**
- 2. OTHER FACTORS**

# THROUGHPUT EVALUATION

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- **STORAGE CAPACITIES**

**INTRINSIC CAPACITY---** THE GROSS AMOUNT  
OF CONTAINERS, BREAKBULK, OR SQUARE FEET  
THAT CAN BE PLACED IN INTRANSIT STORAGE  
(100%)

# ***THROUGHPUT EVALUATION***

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**OPTIMUM CAPACITY--- 55% OF THE GROSS OR  
INTRINSIC CAPACITY**

**CONGESTION BEGINS--- IN MILITARY PLANNING  
CONGESTION STARTS WHEN THE CAPACITY AT  
THE STORAGE SITE REACHES 60% OF THE INTRINSIC  
CAPACITY OF THAT AREA**

**FULL CONGESTION--- IS THE POINT WHERE CARGO  
IN THE STORAGE AREA IS 80% OF THE GROSS OR  
INTRINSIC CAPACITY OF THE AREA**